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PROVISIONAL SPECIFICATION.

Improvements in or connected with Stethoscopes.

I, JAMES ERNEST ARNOLD, of 31, West Smithfield, in the City and County of London, Surgical Instrument Maker, do hereby declare the nature of this invention to be as follows:—

My invention refers to the construction of stethoscopes whereby they are rendered more sensitive to or for conveying sounds to the ears clearly and distinctly from the body of the person examined than heretofore, and with this object in view I arrange within the orifice of the trumpet shaped hollow cylindrical end, which is placed against the body of the person to be examined, a conically shaped cap or vessel, the apex of the cone being in communication with the inside of the cap or vessel, and the branch tubes, to which the ordinary rubber tubes leading to the ear branches are connected. The top of the cone should be sunk in or be below the top or outer edge of the trumpet mouth, and the tube leading therefrom should pass through the trumpet, down the outside thereof, and beneath same to the junction of the ear tubes below the trumpet shaped mouth containing the cone aforesaid. The base of the cone is supported by a ring connected near the base of the trumpet mouth, and thus there is an air chamber formed within the cone itself, and the base of the cylindrical stem by or through which the sound waves pass or are conveyed from the body of the person under examination, to the inside of the underside of the cone and thence through the ordinary connecting tubes to the examiner's ears.

Dated this 22nd day of March 1897.

BREWER & SON,
London and Leeds, Agents for the Applicant.

COMPLETE SPECIFICATION.

Improvements in or connected with Stethoscopes.

I, JAMES ERNEST ARNOLD, of 31, West Smithfield, in the City and County of London, Surgical Instrument Maker, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention refers to the construction of stethoscopes whereby they are rendered more sensitive to or for conveying sounds to the ears clearly and distinctly from the body of the person examined than heretofore, and with this object in view, within the orifice of the trumpet shaped hollow cylindrical end, which is placed against the body of the person to be examined I arrange a conically shaped cap

[Price 8d.]

Arnold's Improvements in or connected with Stethoscopes.

or vessel, the cone being in communication with the inside of the cylindrical end, and with the tube or tubes leading to the ear end of the instrument.

In order that my invention may be readily understood I will further describe same with reference to the accompanying drawings, whereon, Fig. 1 shews in sectional elevation, one form of stethoscope, constructed according to my invention, 5 and Fig. 2 is a plan view of same. Fig. 3 is an elevation shewing the invention applied to an ordinary form of stethoscope having flexible ear tubes.

According to my invention within the hollow cylindrical part A, which is to be placed against the body of the person to be examined, I arrange an inverted cap or vessel B, of conical or tubular shape, with an open mouth or trumpet shaped 10 end. The cap or vessel B is arranged with its open end towards the inside of the cylindrical part A and the top of the cap or vessel B should be sunk in or be below the top or outer edge of the mouth of the cylindrical part A; the tube C leading from the vessel B should pass through the trumpet hollow cylindrical end, substantially as shewn down the outside thereof, and beneath same, where it 15 may form the stem D of the instrument, as at Figs. 1 and 2, or the tube C may extend to the junction piece E of the ear tubes F F¹ as at Fig. 3 below the trumpet shaped mouth A containing the cone or vessel B aforesaid. There is an air chamber formed within the cap or vessel B itself, and the cylindrical stem or connection C, by or through which the sound waves pass or are conveyed from the 20 body of the person under examination, and thence through the ordinary connecting tubes, as for example is shewn at Figs. 1, 2 and 3, to the examiner's ears.

I preferably apply an elastic cushion, filled with air or glycerine, as at G to the edge of the open ended cylindrical part A; such a cushion may be formed for example of india rubber, and may have an annular air channel therein as shewn 25 to increase its elasticity, and render it capable of becoming adapted to the formation of the surface to which it is applied.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed I declare that what I claim is:—

1. In stethoscopes, the employment within the open ended cylindrical part (A) 30 which is to be applied to the body of the person to be examined, of the cap or vessel (B) having an open (say trumpet shaped) end, towards the closed end of the part A and tubular connection from the said vessel (B) to the ear end of the instrument, substantially as and for the purposes described.

2. The general combination and construction composing my improvements in or 35 connected with stethoscopes, all arranged and acting, substantially as and for the purposes hereinbefore described and illustrated with reference to the accompanying drawings.

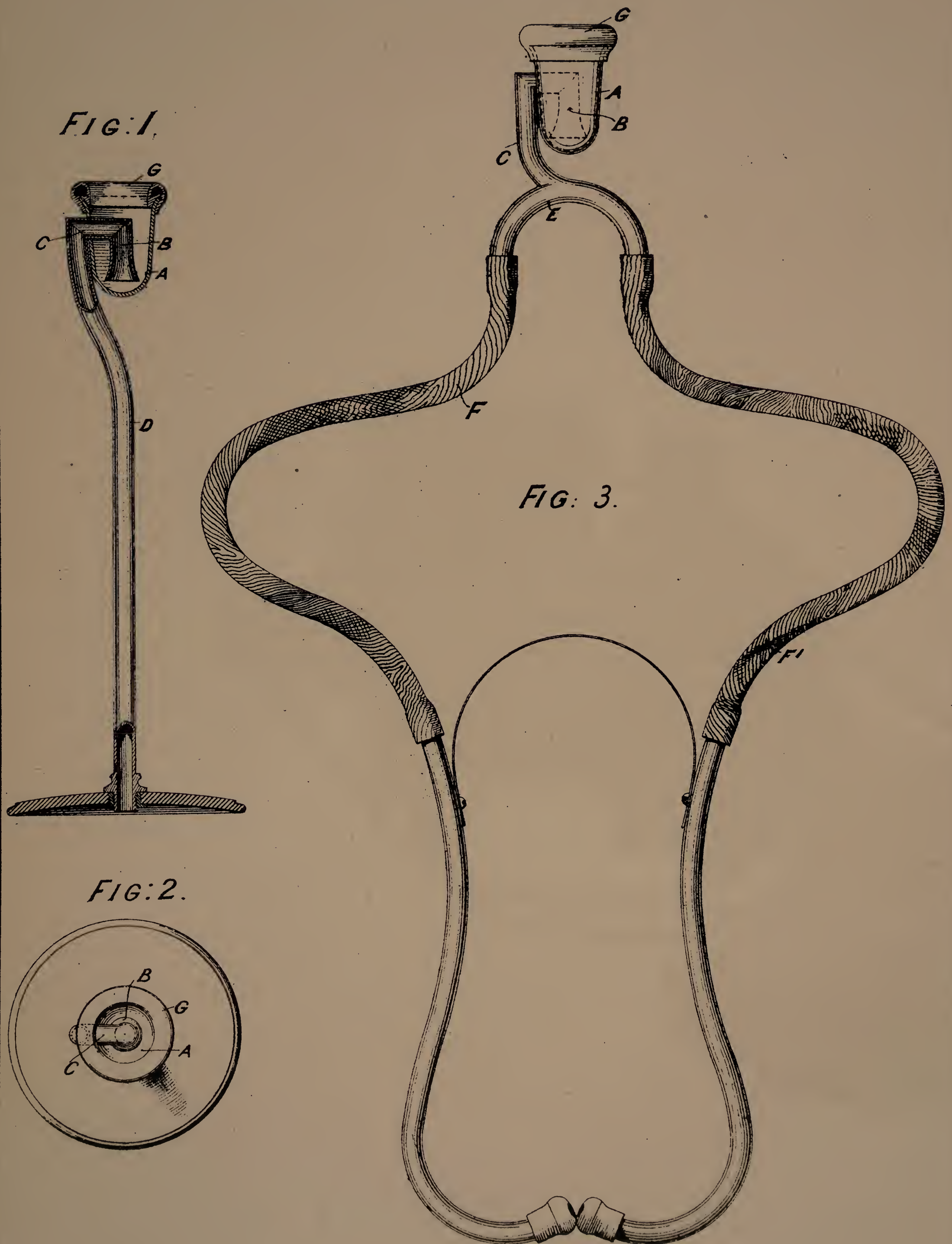
Dated this 22nd day of December 1897.

BREWER & SON,
London and Leeds, Agents for the Applicant.

40

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[This Drawing is a reproduction of the Original on a reduced scale.]

